

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Schofield et al.	Confirmation No.:	5687
Serial No.:	10/594,295	Art Unit:	1711
Filed:	September 26, 2006	Examiner:	Not yet assigned
Customer No.:	21559		
Title:	Assays for Identifying Modulators of the Hydroxylation of Ankyrin Repeat Proteins by 2-Oxoglutarate Dependent Oxygenase and Methods of Using the Same		

Mail Stop PCT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Applicants submit the references listed on the enclosed Form PTO-1449, copies of which are enclosed with the exception of U.S. patents and U.S. patent application publications. A copy of a communication from a foreign patent office in a counterpart application is also enclosed.

Submission of this statement is not a representation that a search has been made, nor is the inclusion of information in this statement an admission that the information is material to patentability.

This statement is being filed before the receipt of a first Office action on the merits.

If there are any charges or any credits, please apply them to Deposit Account No. 03-2095.

Respectfully submitted,

Date: March 19, 2007

Susan M. Michaud  
Susan M. Michaud, Ph.D.  
Reg. No. 42,885

Clark & Elbing LLP  
101 Federal Street  
Boston, MA 02110  
Telephone: 617-428-0200  
Facsimile: 617-428-7045

SUBSTITUTE FORM PTO-1449 (MODIFIED)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	Attorney Docket No.	50318/014001
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)		Serial No.	10/594,295
		Applicant	Schofield et al.
		Filing Date	September 26, 2006
		Group	1711
(37 C.F.R. § 1.98(b))		IDS Filed	March 21, 2007

U.S. PATENT DOCUMENTS						
Examiner's Initials	Document Number	Publication Date	Patentee or Applicant	Class	Subclass	Filing Date (If Appropriate)
	4,446,038	05/01/84	Schlicht et al.			
	5,206,343	04/27/93	Henke et al.			
	5,916,898	06/29/99	Edwards et al.			
	6,200,974	03/13/01	Edwards et al.			
	6,566,088	05/20/03	McKnight et al.			
	2003/0176317	09/18/03	Guenzler-Pukall et al.			
	2003/0153503	08/14/03	Klaus et al.			
	2004/0053977	03/18/04	Almstead et al.			
FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION						
Examiner's Initials	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation (Yes/No)
	03/080566	10/02/03	WIPO			
	04/035812	04/29/04	WIPO			
OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PLACE OF PUBLICATION)						
	Asikainen et al., "Stabilization of HIF-1Alpha and Release of VEGF by Prolyl-4-Hydroxylase Inhibition in Human Lung Cells," Free Radical Bio. Med. 35:410 Suppl. 1, 2003.					
	Aoyagi et al., "Prolyl 4-Hydroxylase Inhibitor is More Effective for the Inhibition of Proliferation than for Inhibition of Collagen Synthesis of Rat Hepatic Stellate Cells," Hepatol. Res. 23:1-6, 2002.					
	Baader et al., "Inhibition of Prolyl 4-Hydroxylase by Oxalyl Amino Acid Derivatives <i>in vitro</i> , in Isolated Microsomes and in Embryonic Chicken Tissues," Biochem. J. 300:525-530, 1994.					
	Baader et al., "Interference in Clinical Laboratory Tests, with Special Regard to the Bilirubin Assay: Effects of a Metabolite of the New Prolyl 4-Hydroxylase Inhibitor, Lufironil," Eur. J. Clin. Chem. Clin. Biol. 32:515-520, 1994.					

EXAMINER	DATE CONSIDERED
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with the next communication to applicant.	

SUBSTITUTE FORM PTO-1449 (MODIFIED)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	Attorney Docket No.	50318/014001
		Serial No.	10/594,295
		Applicant	Schofield et al.
		Filing Date	September 26, 2006
		Group	1711
(37 C.F.R. § 1.98(b))		IDS Filed	March 21, 2007

	Bickel et al., "Beneficial Effects of Inhibitors of Prolyl 4-Hydroxylase in CCl <sub>4</sub> -Induced Fibrosis of the Liver in Rats," J. Hepatol. 13(Suppl. 3):S26-S34, 1991.
	Bickel et al., "Selective Inhibition of Hepatic Collagen Accumulation in Experimental Liver Fibrosis in Rats by a New Prolyl 4-Hydroxylase Inhibitor," Hepatol. 28:404-411, 1998.
	Cunliffe et al., "Inhibition of Prolyl 4-Hydroxylase by Hydroxyanthraquinones," Biochem. J. 239:311-315, 1986.
	Cunliffe et al., "Novel Inhibitors of Prolyl 4-Hydroxylase 3. <sup>1</sup> Inhibition by the Substrate Analogue <i>N</i> -Oxaloglycine and Its Derivatives," J. Med. Chem. 35:2652-2658, 1992.
	Dowell et al., "Novel Inhibitors of Prolyl 4-Hydroxylase, Part 4. Pyridine-2-Carboxylic Acid Analogues with Alternative 2-Substituents," Eur. J. Med. Chem. 28:513-516, 1993.
	Franklin et al., "Inhibition of Collagen Hydroxylation by 2,7,8-Trihydroxyanthraquinone in Embryonic-Chick Tendon Cells," Biochem. J. 261:127-130, 1989.
	Franklin et al., "Therapeutic Approaches to Organ Fibrosis," Int. J. Biochem. Cell Biol. 29:79-89, 1997.
	Franklin et al., "Inhibition of Prolyl 4-Hydroxylase <i>in vitro</i> and <i>in vivo</i> by Members of a Novel Series of Phenanthrolinones," Biochem. J. 353:333-338, 2001.
	Friedman et al., "Prolyl 4-Hydroxylase is Required for Viability and Morphogenesis in <i>Caenorhabditis Elegans</i> ," Proc. Natl. Acad. Sci. U.S.A. 97:4736-4741, 2000.
	Hewitson et al., "Hypoxia-Inducible Factor (HIF) Asparagine Hydroxylase is Identical to Factor Inhibiting HIF (FIH) and is Related to the Cupin Structural Family," J. Biol. Chem. 277:26351-26355, 2002.
	Higashide et al., "Alahopcin, a New Dipeptide Antibiotic Produced by <i>Streptomyces Albulus</i> Subsp. <i>Ochragerus</i> Subsp. Nov.," J. Antibiot. 38:285-295, 1985.
	Ivan et al., "Biochemical Purification and Pharmacological Inhibition of a Mammalian Prolyl Hydroxylase Acting on Hypoxia-Inducible Factor," Proc. Natl. Acad. Sci. U.S.A. 99:13459-13464, 2002.
	Lerner et al., "X-Ray Crystal Structure of a Bisubstrate Inhibitor Bound to the Enzyme Catechol-O-Methyltransferase: A Dramatic Effect of Inhibitor Preorganization on Binding Affinity," Angew. Chem. Int. Ed. 40:4040-4042, 2001.
	Mahon et al., "FIH-1: A Novel Protein that Interacts with HIF-1 $\alpha$ and VHL to Mediate Repression of HIF-1 Transcriptional Activity," Genes Dev. 15:2675-2686, 2001.
	Main et al., "The Folding and Design of Repeat Proteins: Reaching a Consensus," Curr. Opin. Struct. Biol. 13:482-489, 2003.
	McNeill et al., "A Fluorescence-Based Assay for 2-Oxoglutarate-Dependent Oxygenases," Anal. Biochem. 336:125-131, 2005.
	Mosavi et al., "The Ankyrin Repeat as Molecular Architecture for Protein Recognition," Protein Sci. 13:1435-1448, 2004.

EXAMINER	DATE CONSIDERED
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with the next communication to applicant.	

SUBSTITUTE FORM PTO-1449 (MODIFIED)  INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)  (37 C.F.R. § 1.98(b))	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	Attorney Docket No.	50318/014001
		Serial No.	10/594,295
		Applicant	Schofield et al.
		Filing Date	September 26, 2006
		Group	1711
		IDS Filed	March 21, 2007

	Myllyharju et al., "Collagens and Collagen-Related Diseases," Ann. Med. 33:7-21, 2001.
	Nwogu et al., "Inhibition of Collagen Synthesis with Prolyl 4-Hydroxylase Inhibitor Improves Left Ventricular Function and Alters the Pattern of Left Ventricular Dilatation after Myocardial Infarction," Circulation 104:2216-2221, 2001.
	Ohta et al., "The Absolute Configuration of P-1894B, A Potent Prolyl Hydroxylase Inhibitor," Chem. and Pharm. Bulletin 32:4350-4359, 1984.
	Philipp et al., "Prolyl 4-Hydroxylase Inhibition Induces HIF and Improved Cardiac Function after Myocardial Infarction," Circulation 106 (Suppl. S.):II-267, Abstract No. 1344, 2002 (Abstract only).
	Schultz et al., "SMART, a Simple Modular Architecture Research Tool: Identification of Signaling Domains," Proc. Natl. Acad. Sci. U.S.A. 95:5857-5864, 1998.
	Wang et al., "Structure of <i>Aquifex Aeolicus</i> KDO8P Synthase in Complex with R5P and PEP, and with a Bisubstrate Inhibitor: Role of Active Site Water in Catalysis," Biochem. 40:15676-15683, 2001.
	Wu et al., "Mechanism-Based Inactivation of the Human Prolyl-4-Hydroxylase by 5-Oxaproline-Containing Peptides: Evidence for a Prolyl Radical Intermediate," J. Am. Chem. Soc. 121:587-588, 1999.
	International Preliminary Report on Patentability from International Application No. PCT/GB2005/001150.

EXAMINER	DATE CONSIDERED
EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with the next communication to applicant.	